



Making It Easier To Control DC Motors

DC Digital Drive Feature comparison guide

This guide will show you the features of the PL/PLX range of DC drives when compared to its immediate competition. It is by no means an exhaustive comparison. Please email your feedback to info@bardac.com. Thanks.

KEY:

✓ = yes ✗ = no



= reduced specification \$= extra cost option

	Bardac PL/PLX	Parker SSD 590 +	CT Mentor2	Lenze 48/4900	ABB DCS500
Unique electronic regenerative stopping facility on most 2Q models.	✓	✗	✗	✗	✗
English language display for programmable connection points.	✓	✗	✗	👉	✗
Digital I/P's and O/P's are short circuit proof.	✓	✗	✗	✗	👉
Digital I/P's and O/P's are over-voltage protected.	✓	✗	✓	✗	✗
Main & Auxiliary power ports for quick current release at start.	✓	✗	✗	✓	✗
4 ergonomically designed keys for Up, Down, Left and Right for easy menu navigation.	✓	✗	✗	✗	✗
Motor drive alarms latched for display after power on / off, i.e. message not lost when power turned off.	✓	✗	✗	✗	✗
Unique 'configuration checker' detects shorting of user programmed block diagram outputs.	✓	✗	✗	✗	✗
All analogue I/P's have a programmable voltage range up to +/- 30V with up to 5mv resolution with excellent response time.	✓	✗	👉	👉	👉
All analogue I/P's are over-voltage protected.	✓	✗	✓	✗	✗
Ability to select 2 sets of motor parameters.	✓	✗	\$	✗	✓
Windows based on/off line graphical configuration & diagnostic tool (supplied FOC inc. connection lead)	✓	✗	✗	✗	\$
Friendly easy to use menu structure with English language parameter names.	✓	👉	✗	✗	✗
Extensive programmable I/O.	✓	👉	\$	\$	\$
Significant panel space savings due to compact design.	✓	👉	👉	✗	✗
In depth diagnostic functionality available from on board display (in-built meter).	✓	👉	👉	👉	✓
Built in oscilloscope output looking at ALL display parameters.	✓	👉	✗	✗	\$

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Ability to store 3 entire drive recipes.	✓	✗	\$	✓	✗
Uniform product width across whole range.	✓	✗	✗	✗	✓
Up to 8 preset speeds by 3 inputs (with priority select).	✓	✗	👉	👉	👉
Large Backlit 40 Character Alphanumeric LCD Display.	✓	👉	✗	✗	✓
All feedback options as standard (Tacho, Encoder etc).	✓	\$	✓	✓	✓
16 Motor drive alarms - displayed in English.	✓	✓	👉	👉	✓
Real language parameter description & pin number on display.	✓	👉	✗	✓	✓
Self test message displays.	✓	✓	✗	✗	✓
Self ranging input for main stack supply 12V to 480V.	✓	✗	✗	✗	✗
Self ranging input for auxiliary supplies 100V to 480V.	✓	👉	✗	✗	✗
Self ranging input for control supply 100V to 240V.	✓	👉	✗	✗	👉
In depth fault monitoring and comprehensive system alarms.	✓	✓	✓	✓	✓
Fully digital control loops.	✓	✓	✓	✓	✓
Control circuits fully isolated from power circuit.	✓	✓	✓	✓	✓
Choice of 2 adaptive armature current loop modes (Standard or Superfast).	✓	✗	✗	✗	✗
Self tuning current loop utilizing "Autotune" algorithm.	✓	✓	✓	✓	✓
Steady state accuracy of 0.01% using encoder with digital reference. NB. No extra hardware required.	✓	\$	\$	✓	✓
Adjustable speed PI with integral defeat.	✓	✓	✓	✓	✓
All analogue O/P's short circuit protected.	✓	✓	✓	✓	✓
Drive to drive Total Recipe Exchange via serial link.	✓	✓	✓	✓	\$
Drive to host Total Recipe Exchange via serial link.	✓	✓	✓	✓	\$
Multiple drive 'daisy chain' data exchange facility via serial link (ideal for digital speed ratioing using encoder feedback – NB no extra hardware needed).	✓	\$	\$	✓	\$
Regeneration up to 1.2 x mains supply.	✓	✓	👉	✗	✓
Field current programmable from minimum to 100% continuous with fail alarm.	✓	✓	✓	✓	✓



Standard Software functions

With an extensive range of standard software blocks, the PL/X can easily take control of the most demanding motion tasks.

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Full suite of center winding macro's	✓	✓	\$	\$	✗
Motorized Pot simulator with memory	✓	✎	✎	✎	✗
2 x PID's (undedicated)	✓	✎	\$	✎	✗
2 x Summers (undedicated)	✓	✎	✓	✎	✗
2 x Filters (undedicated)	✓	✎	\$	✗	✗
Dual Motor Swap	✓	✗	\$	\$	✓
Batch Counter	✓	✗	✗	✗	✓
Spindle Orientation	✓	✗	\$	✓	✗
Latch	✓	✗	✗	✗	✗
Delay Timer	✓	✗	✗	✗	✗
Linear or S ramp	✓	✓	\$	✓	✓
Current Profiling v Speed	✓	✓	✓	✓	✓
Jog / Crawl functions	✓	✓	✓	✓	✓
Slack take up	✓	✓	\$	✓	✓
Draw control	✓	✓	✓	✓	✓
Auto Self-tune current loop	✓	✓	✓	✓	✓
8 independent Multi-function blocks	✓	✎	✎	✎	✎
4 independent Comparators	✓	✗	✗	✎	✗
4 independent Change-Over switches	✓	✗	✗	✗	✗
16 Jumpers for interconnection of parameters	✓	✎	✎	✗	✓
Versatile Preset Value Selector	✓	✗	✗	✗	✓
Parameter Profiler	✓	✗	✗	✗	✗
3 User programmable complete drive recipe pages	✓	✗	✗	✓	✗
Copy & paste facility between all recipe pages	✓	✗	✗	✓	✗
'Overwrite lock out' facility on one recipe page	✓	✗	✗	✗	✗



Inputs / Outputs

Numerous inputs and outputs allow you to control a wider range of industrial applications without the need for external equipment.

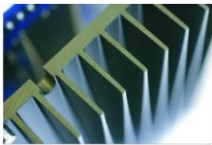
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	Bardac PL/PLX	Parker SSD 590 +	CT Mentor2	Lenze 48/4900	ABB DCS500
Analog inputs					
8 (all programmable) (can also be utilized as digital i/p's)	8	5	5	4	5
Analog outputs					
4 (3 programmable)	4	3	4	3	2
Digital inputs					
17 (all programmable)	17	9	9	5	8
Digital outputs					
7 (all programmable)	7	3	7	4	7
Speed feedback					
Analog tacho	✓	\$	✓	✓	✓
Encoder	✓	\$	✓	✓	✓
Armature voltage	✓	✓	✓	✓	✓
Encoder + Armature volts or Analog Tacho	✓	\$	✓	✓	✗



Protection

Reducing your downtime and maintenance costs by giving your DC motors added levels of protection.

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	Bardac PL/PLX	Parker SSD 590 +	CT Mentor2	Lenze 48/4900	ABB DCS500
Interline device networks (snubber)	✓	✓	✓	✗	✓
High energy MOV's	✓	✓	✓	✓	✓
Overcurrent (instantaneous)	✓	✓	✓	✓	✓
Overcurrent (150% for 25s inverse time)	✓	✓	✓	✘	✓
Field Failure	✓	✓	✓	✓	✓
Field Overcurrent	✓	✓	✓	✓	✓
Tacho and/or Encoder failure with auto AVF backup	✓	✗	✗	✓	✗
Motor over-temperature	✓	✓	✓	✓	✓
Thyristor Stack over-temperature	✓	✓	✓	✓	✓
Thyristor "Trigger" failure	✓	✓	✓	✓	✓
Zero speed detection	✓	✓	✓	✓	✓
Standstill logic	✓	✓	✓	✓	✓
Stall protection	✓	✓	✓	✓	✓
Digital Output short circuit Trip Alarm	✓	✗	✗	✗	✗
Overspeed	✓	✓	✓	✓	✓

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Armature Overvolts	✓	✓	✓	✓	✓
Mains synchronisation loss	✓	✓	✓	✓	✓
Mains supply phase loss	✓	✓	✓	✓	✓
Digital Output limit 350mA	✓	👉	👉	👉	👉
Low leakage current	✓	👉	👉	👉	👉



Field Control

On board fully controlled field supply.

8A (12-123A ratings)

16A (155-330A ratings)

32A (430-630A ratings)

Optional 50A (430-1650A ratings)

The field and armature supplies are input through separate terminals and may be at different levels if desired.

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Fixed Voltage	✓	✓	✓	✓	\$\$
Fixed Current	✓	✓	✓	✓	\$\$
Field Economy	✓	✓	✓	✓	\$\$
Field Weakening	✓	✓	✓	✓	\$\$
Delayed Quenching (for Dynamic Braking)	✓	✓	✓	✓	\$\$
Standby field value (for keeping motor warm/no condensation)	✓	✓	✓	✓	\$



savvy-SFD Configuration and monitoring software

The most powerful digital DC drive on the market needs the most flexible and robust software available.

savvy-SFD simplifies drive programming

- Easy to use software for Windows, Mac, Unix Platforms (Java based)
- Allows online and offline configuration
- Allows real time diagnostics and monitoring

This graphical diagnostic tool is included with every Bardac PL/X DC Drive free of charge.

savvy-SFD makes interconnecting the drive's application blocks a simple task, and allows the user to tailor the drive's control strategy to meet the demands of the process or application exactly.